RCM3100 RabbitCore™

Microprocessor Core Module

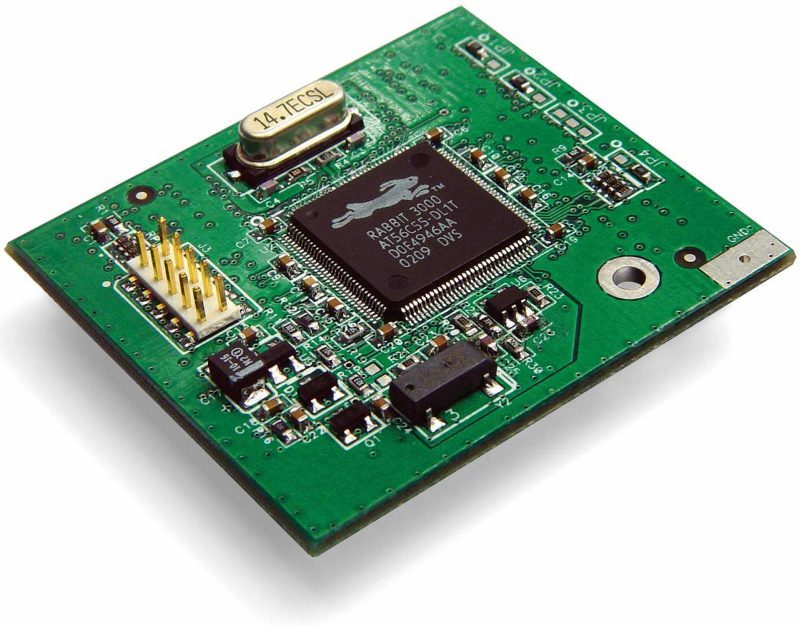
Model RCM3100, RCM3110

The RCM3100 RabbitCore microprocessor core module is the ideal option for designers who want to rapidly develop and implement embedded systems. Powered by the Rabbit 3000™ microprocessor, the compact RCM3100 boasts powerful features and a small footprint, 1.85" × 1.65" (47 × 42 mm), to simplify integration. The RCM3100 has 6 serial ports, operates at 29.4 MHz, and 3.3 V (with 5 V-tolerant I/O). Built-in low-EMI features, including a clock spectrum spreader, help designers eliminate the kind of emissions-related problems that frequently derail tight development schedules.

Available in two models, the RCM3100 is equipped with up to 512K each of Flash and SRAM, quadrature encoder inputs, PWM outputs, and pulse capture and measurement capabilities. Two 34-pin connection headers provide 54 digital I/O shared with the 6 serial ports and alternate I/O features. The RCM3100 is pin compatible with the Ethernet RCM3000, facilitating cost-effective implementation of both Ethernet and non-Ethernet systems. The RCM3100 features a battery-backable real-time clock, glueless memory and I/O interfacing, and low power "sleepy" modes (<2mA). A fully enabled 8-bit slave port permits easy master-slave interfacing with another processor-based system, and an alternate I/O bus can be configured for 8 data lines and 6 address lines (shared with parallel I/O). The Rabbit 3000 processor's compact, C-friendly instruction set and high clock speeds produce exceptionally fast results for math, logic, and I/O.

Features

- 3.3 V operation
- Powerful Rabbit 3000™ microprocessor
- Low-EMI (typically <10 dB µV/m @ 3 m)
- Up to 512K Flash/512K SRAM
- 54 digital I/O
- 6 serial ports (IrDA, SDLC/HDLC, Async, SPI)
- Low power "sleepy" modes (< 2mA)



Designing with RabbitCores

The RabbitCore family of microprocessor core modules is designed to facilitate rapid development and implementation of embedded systems. RabbitCores are powered by high-performance 8-bit Rabbit microprocessors with extensive integrated features and a C-friendly instruction set designed for use with the Dynamic C® development system. The RabbitCore mounts on a user-designed motherboard and acts as the controlling microprocessor for the user's system. Small in size but packed with powerful features, these core modules give designers a complete package for control and communication.

Programming the RCM3100

Programs are developed using our industry-proven Dynamic C software development system. An extensive library of drivers and sample programs is provided.

RabbitCore RCM3100 Specifications

Features	RCM3100	RCM3110
Microprocessor	Rabbit 3000 at 29.4 MHz	
EMI Reduction	Spectrum spreader for reduced EMI (radiated emissions)	
Flash	512K (2 x 256K)	256K
SRAM	512K	128K
Backup Battery	Connection for user-supplied battery (to support RTC and SRAM)	
General Purpose I/O	54 digital I/O: • 46 configurable I/O • 4 fixed inputs • 4 fixed outputs	
Additional Inputs	2 Startup Mode, Reset In	
Additional Outputs	Status, Reset Out	
Auxiliary I/O Bus	8 data and 6 address (shared with I/O), plus I/O Read-Write	
Serial Ports	6 CMOS-compatible • 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC (with IrDA) • 1 asynchronous clocked serial port dedicated for programming • Support or MIR/SIR IrDA transceiver	
Serial Rate	Max. asynchronous baud rate = CLK/8	
Slave Interface	Slave Port permits use as master or intelligent peripheral with Rabbit-based or other master controller	
Real-Time Clock	Yes	
Timers	Ten 8-bit timers (6 casacadable from the first) and one 10-bit timer with 2 match registers	
Watchdog/Supervisor	Yes	
Pulse-Width Modulators	10-bit free-running counter and four pulse-width registers	
Input Capture	2-channel input capture can be used to time input signals form various port pins.	
Quadrature Decoder	2-channel quadrature decoder accepts inputs from external incremental encoder modules.	
Power	3.15-3.45 V DC 75 mA @ 3.3 V	
Operating Temp.	-40° to +85°C	
Humidity	5-95%, non-condensing	
Connectors	Two 2 x 17 (2 mm pitch)	
Board Size	1.85" x 1.65" x 0.55" (47 x 42 x 14 mm)	
Part Number	101-0517	101-0518
Development Kit Part Number	U.S. 101-0533	Int'l 101-0534

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